

**On a new Polycystid Gregarine,
Spirosoma caudata nov. gen. et nov. sp.,
from a Diplopod.**

By

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With two figures.

In examining specimens of *Fontaneria coarctata* Pocock preserved in alcohol, which were collected on Mt. Kinkazan in Gifu, I have discovered numbers of a curious gregarine showing conspicuous spiral striation in the posterior parts of body. I regard the form to represent a new genus and species, which I shall call by the name of *Spirosoma caudata*.

***Spirosoma caudata*, n. g., n. sp.**

Sporonts always solitary. The entire body, up to 400 μ in length, consists of a broad anterior part, prolonged posteriorly into a narrow tail-like part.

Protomerite short, usually a little broader than long; generally conical, sometimes somewhat pentagonal in lateral view. Fully developed adults frequently show a shallow depression on the sides of protomerite. In the young the protomerite is relatively large, and usually a little longer than broad; there is no depression on the sides; the anterior end is narrower than in the adult. The smaller sporonts exhibit a pore-like structure at the apex of protomerite, while the larger sporonts either show it but very inconspicuously or are entirely without it. From the presence of the pore-like structure if only in the younger stages, and also from the fact of the host being a diplopod, I should place the gregarine in the family Stenophoridae Léger & Duboscq.

Deutomerite large and elongate; divisible into two parts, the broad anterior and the narrow posterior. The anterior part is usually of an ovoid

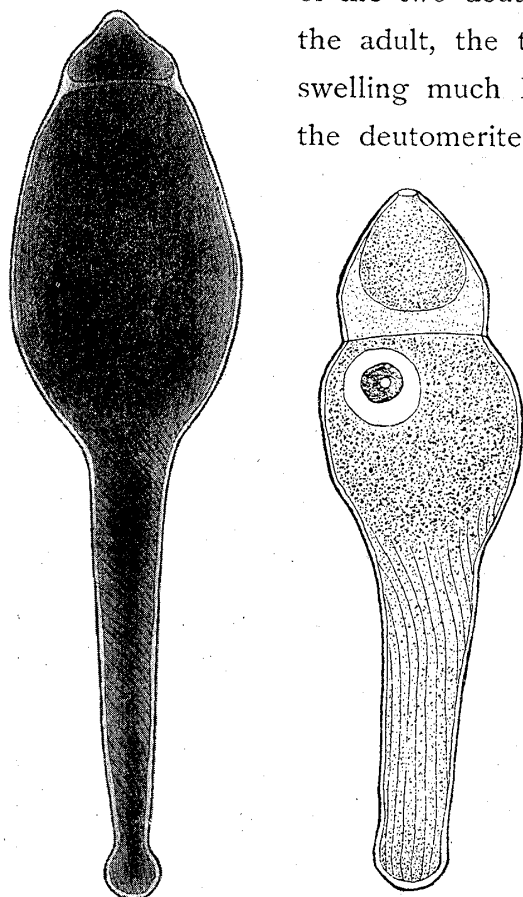
form; it is always somewhat shorter than the posterior tail-like part. The latter is cylindrical and tapers very slightly towards the posterior end which is swollen into a small terminal knob. In the young, the distinction of the two deutomerite parts is not so marked as in the adult, the tail being broader and the terminal swelling much less conspicuous. These features of the deutomerite, together with the relatively large

size of the protomerite, give to immature individuals an appearance more or less different from that of the adult.

Between protomerite and deutomerite there always exists a distinct constriction, which is especially marked in the younger stages. Septal region pretty well developed, especially so in adults.

The epicyte of protomerite and of the broad anterior part of deutomerite shows the ordinary fine longitudinal striation, while in the tail the same striation takes a spiral course as shown in figure A. The striae are much less densely

arranged in the tail than in more anterior parts; so that, while in the latter parts at least 4 striae can be counted within a transverse extent of 3.7μ , in the former there may exist only two of them in the same extent of space. The spiral striation takes same direction in all individuals. In lateral view of these it is seen to run from the left above obliquely downwards to the right below. In the hind parts of tail the spiral winding grows gradually more and more oblique, until on the terminal swelling the striation is nearly meridional. In the young, the striae, besides being more



A. Adult sporont.

× 260

B. Young sporont.

× 560

sparse than in the adults, exhibit spiral winding only to a weak degree.

Sarcocyte is pretty well developed; it is usually a little thicker near the septum and in posterior parts of the tail than in other parts.

Endocyte dense, especially so in the broad anterior part of deutomerite and also in the swelling at tail end. In the protomerite of the young the coarser endocyte granules were often observed to form a distinct mass in direct touch with the apical pore, the remaining parts of protomerite being filled up with comparatively fine granules.

Nucleus is found in the broad anterior part of deutomerite. It is large and vesicular, containing a single large spherical karyosome, which, in many cases, was seen to contain a small vacuole.

Measurements of variously old sporonts :

Specimens.	Total length of body	Length of protomerite	Length of deutomerite	Breadth of body	Diameter of nucleus	Diameter of karyosome	Length of the broad part of deutomerite.	Length of the tail part of deutomerite	Breadth of the tail part of deutomerite in the middle.
A	112 μ	24 μ	88 μ	32 μ	—	—	—	—	—
B	127 "	27 "	100 "	36 "	—	—	—	—	—
C	184 "	32 "	152 "	48 "	20 μ	8 μ	—	—	—
D	192 "	32 "	160 "	52 "	20 "	10 "	—	—	—
E	200 "	20 "	180 "	44 "	—	—	60 μ	120 μ	20 μ
F	264 "	32 "	232 "	60 "	20 "	12 "	104 "	128 "	24 "
G	264 "	24 "	240 "	72 "	—	—	100 "	140 "	28 "
H	332 "	32 "	300 "	80 "	—	—	120 "	180 "	24 "
I	400 "	32 "	368 "	100 "	—	—	160 "	208 "	28 "

Habitat: Anterior parts of the alimentary canal of *Fontaneria coarctata* Pocock.

Infection: Heavy and common.